

```

ID Q96L44 PRELIMINARY; PRT; 185 AA.
AC Q96L44;
DT 01-DEC-2001 (TRENBLrel. 19, Created)
DT 01-DEC-2001 (TRENBLrel. 19, Last sequence update)
DT 01-MAR-2002 (TRENBLrel. 20, Last annotation update)
DE Glial cell-derived neurotrophic factor isoform.
GN GDNF.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RA Zhang B., Feng Z., Zhou Y., Peng X., Yuan J., Qiang B.;
RL Submitted (AUG-2001) to the EMBL/GenBank/DBJ databases.
CC -1- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
DR EMBL; AF052832; AALJ1017.1; -
DR InterPro; IPR001839; TGFb.
DR Pfam; PF00019; TGF-beta; 1.
KW Glycoprotein.
SQ SEQUENCE 185 AA; 20885 MW; 1988C50DA5EA1B10 CRC64;
Query Match 100.0%; Score 104; DB 4; Length 185;
Best Local Similarity 100.0%; Pred. No. 2.2e-08;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGQKNGK 19
DB 73 NPENSRGKGRGQKNGK 91

RESULT 3
Q97685 PRELIMINARY; PRT; 160 AA.
AC Q97685;
DT 01-MAY-1999 (TRENBLrel. 10, Created)
DT 01-MAY-1999 (TRENBLrel. 10, Last sequence update)
DT 01-MAR-2002 (TRENBLrel. 20, Last annotation update)
DE Neurotrophic factor (Fragment).
GN GDNF.
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheciidae;
OC Cercopitheciinae; Macaca.
OX NCBI_TaxID=9544;
RN [1]
RP SEQUENCE FROM N.A.
RA Erjia C., Yong L., Qiujiang D.;
RL "The gene cloning of macaca and human GDNF by direct PCR from whole
blood and sequence analysis."
Submitted (NOV-1998) to the EMBL/GenBank/DBJ databases.
CC -1- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
DR EMBL; AF106678; AAC99782.1; -
DR HSSP; Q07731; IAGQ.
DR InterPro; IPR001839; TGFb.
DR Pfam; PF00019; TGF-beta; 1.
DR SMART; SM00204; TGFb; 1.
KW Glycoprotein.
FT NON_TER 1
SQ SEQUENCE 160 AA; 18196 MW; E206362185D499B4 CRC64;
Query Match 97.1%; Score 101; DB 6; Length 160;
Best Local Similarity 94.7%; Pred. No. 5.4e-08;
Matches 18; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGQKNGK 19
DB 48 NPENSRGKGRGQKNGK 66

RESULT 4
Q90XJ7 PRELIMINARY; PRT; 73 AA.
ID Q90XJ7

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AC Q90XJ7;
DT 01-MAY-2000 (TRENBLrel. 13, Created)
DT 01-MAY-2000 (TRENBLrel. 13, Last sequence update)
DT 01-DEC-2001 (TRENBLrel. 19, Last annotation update)
DE GDNF splice variant 3 (Fragment).
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=WISTAR; TISSUE=BRAIN;
RA Russell F.D., Koishi K., Jiang Y., McLennan I.S.;
RL "Anterograde axonal transport of glial cell line-derived neurotrophic
factor and its receptors in rat hypoglossal nerve."
Submitted (NOV-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF205715; AAF23769.1; -
FT NON_TER 73
SQ SEQUENCE 73 AA; 8262 MW; D6394FE64FFC67AB CRC64;
Query Match 95.2%; Score 99; DB 11; Length 73;
Best Local Similarity 94.7%; Pred. No. 4.7e-08;
Matches 18; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGQKNGK 19
DB 47 SPENSRGKGRGQKNGK 65

RESULT 5
Q90XJ8 PRELIMINARY; PRT; 99 AA.
ID Q90XJ8
AC Q90XJ8;
DT 01-MAY-2000 (TRENBLrel. 13, Created)
DT 01-MAY-2000 (TRENBLrel. 13, Last sequence update)
DT 01-DEC-2001 (TRENBLrel. 19, Last annotation update)
DE GDNF splice variant 2 (Fragment).
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=WISTAR; TISSUE=BRAIN;
RA Russell F.D., Koishi K., Jiang Y., McLennan I.S.;
RL "Anterograde axonal transport of glial cell line-derived neurotrophic
factor and its receptors in rat hypoglossal nerve."
Submitted (NOV-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF205714; AAF23768.1; -
FT NON_TER 99
SQ SEQUENCE 99 AA; 11025 MW; C60C998CD9C58723 CRC64;
Query Match 95.2%; Score 99; DB 11; Length 99;
Best Local Similarity 94.7%; Pred. No. 6.5e-08;
Matches 18; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGQKNGK 19
DB 73 SPENSRGKGRGQKNGK 91

RESULT 6
Q90XJ9 PRELIMINARY; PRT; 125 AA.
ID Q90XJ9
AC Q90XJ9;
DT 01-MAY-2000 (TRENBLrel. 13, Created)
DT 01-MAY-2000 (TRENBLrel. 13, Last sequence update)
DT 01-DEC-2001 (TRENBLrel. 19, Last annotation update)
DE GDNF splice variant 1 (Fragment).
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;

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GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 30, 2002, 15:40:57 ; Search time 29 Seconds
(without alignments)
134.996 Million cell updates/sec

Title: us-09-687-993-18

Perfect score: 104

Sequence: 1 NPENSRGKRRGQRGNRG 19

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

SPTREMBL_21:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phase:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_rvirus:*
16: sp_bacterioplasmid:*
17: sp_archaea:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	104	100.0	133	4 Q9UD32	Q9UD32 homo sapien
2	104	100.0	185	4 Q96L44	Q96L44 homo sapien
3	101	97.1	160	6 Q97685	Q97685 macaca mula
4	99	95.2	73	11 Q9QXJ7	Q9QXJ7 rattus norv
5	99	95.2	99	11 Q9QXJ8	Q9QXJ8 rattus norv
6	99	95.2	125	11 Q9QXJ9	Q9QXJ9 rattus norv
7	99	95.2	199	11 Q8R485	Q8R485 rattus norv
8	72	69.2	182	13 Q9IAM2	Q9IAM2 gallus gall
9	72	69.2	215	13 Q9IAM3	Q9IAM3 gallus gall
10	71	68.3	143	13 Q8QGE9	Q8QGE9 nipponia ni
11	60	57.7	926	10 Q9LVP1	Q9LVP1 arabidopsis
12	58	55.8	1479	10 Q9ATY5	Q9ATY5 arabidopsis
13	58	55.8	1522	10 Q9LRT2	Q9LRT2 arabidopsis
14	57	54.8	513	10 Q8RZE5	Q8RZE5 oryza sativ
15	55.5	53.4	545	10 Q8S6K4	Q8S6K4 oryza sativ
16	55.5	53.4	2925	12 Q89163	Q89163 rice grassy

17	55.5	53.4	2925	12	Q9JGN8	Q9JGN8 rice grassy
18	54	51.9	898	16	Q9A749	Q9A749 caulobacter
19	53.5	51.4	161	10	Q94GU5	Q94GU5 oryza sativ
20	53	51.0	350	10	Q94IW2	Q94IW2 oryza sativ
21	53	51.0	2006	5	Q9VWF2	Q9VWF2 drosophila
22	52	50.0	588	12	Q9IPQ8	Q9IPQ8 cynomolgus
23	51	49.0	449	5	Q9NKA5	Q9NKA5 drosophila
24	51	49.0	516	3	Q9C2K5	Q9C2K5 neurospora
25	51	49.0	750	16	Q8UG82	Q8UG82 agrobacteri
26	51	49.0	1207	10	Q8LPK1	Q8LPK1 arabidopsis
27	51	49.0	1334	10	Q9C7V1	Q9C7V1 arabidopsis
28	51	49.0	1334	10	Q9FH39	Q9FH39 arabidopsis
29	50	48.1	100	15	Q99DC5	Q99DC5 human immun
30	50	48.1	100	15	Q99DA5	Q99DA5 human immun
31	50	48.1	100	15	Q99DA0	Q99DA0 human immun
32	50	48.1	100	15	Q91136	Q91136 human immun
33	50	48.1	100	15	Q91140	Q91140 human immun
34	50	48.1	100	15	Q91144	Q91144 human immun
35	50	48.1	100	15	Q91152	Q91152 human immun
36	50	48.1	100	15	Q9YNC9	Q9YNC9 human immun
37	50	48.1	100	15	Q91170	Q91170 human immun
38	50	48.1	100	15	Q9YNC7	Q9YNC7 human immun
39	50	48.1	100	15	Q9YNC6	Q9YNC6 human immun
40	50	48.1	100	15	Q91180	Q91180 human immun
41	50	48.1	100	15	Q900Y9	Q900Y9 human immun
42	50	48.1	539	16	Q99238	Q99238 streptococc
43	50	48.1	699	2	Q51287	Q51287 neisseria m
44	50	48.1	1840	10	Q9SPY4	Q9SPY4 arabidopsis
45	49.5	47.6	361	10	Q9MAU9	Q9MAU9 arabidopsis

ALIGNMENTS

RESULT 1

Q9UD32 ID Q9UD32 PRELIMINARY; PRT; 133 AA.
AC Q9UD32;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
DE ASTROCYTE-derived TROPIC factor 2, ATP-2.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95172201; PubMed=7867768;
RA Schaar D.G., Sieber B.A., Sherwood A.C., Dean D., Mendoza G.,
RA Ramakrishnan L., Dreyfus C.F., Black I.B.;
RT "Multiple astrocyte transcripts encode nigral trophic factors in rat
RT and human."
RL Exp. Neurol. 130:387-393(1994).
CC -1- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
DR HSSP; Q07731; LAGQ.
DR InterPro; IPR001839; TGFb.
DR Pfam; PF00019; TGF-beta; 1.
DR SMART; SM00204; TGFb; 1.
KW Glycoprotein.
SQ SEQUENCE 133 AA; 14736 MW; B46B96DD5F679769 CRC64;

Query Match 100.0%; Score 104; DB 4; Length 133;
Best Local Similarity 100.0%; Pred. No. 1.5e-08;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKRRGQRGNRG 19
Db 21 NPENSRGKRRGQRGNRG 39

RESULT 2

Q96L44


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DR EMBL: U56195; AAB07463.1; ALT_INIT.
DR EMBL: U75532; AAB18343.1; ALT_INIT.
DR EMBL: D49921; BAA08660.1; -.
DR EMBL: U36449; AAB52953.1; -.
DR EMBL: D88264; BAA13566.1; ALT_INIT.
DR EMBL: D88352; BAB12221.1; -.
DR EMBL: D88351; BAB12221.1; JOINED.
DR HSSP: Q07731; IAGQ.
DR MGD: MGI:107430; Gdnf.
DR InterPro: IPR001839; TGFb.
DR Pfam: PF00019; TGF-beta; 1.
DR SMART: SM00204; TGFb; 1.
DR PROSITE: PS00250; TGF-BETA_1; FALSE_NEG.
KW Growth factor; Glycoprotein; Signal; Alternative splicing.
FT SIGNAL 1 19
FT PROPEP 20 77
FT CHAIN 78 211
FT DISULFID 118 179
FT DISULFID 145 208
FT DISULFID 149 210
FT DISULFID 178 178
FT CARBOHYD 126 126
FT CARBOHYD 162 162
FT VARSPIC 25 51
SQ SEQUENCE 211 AA; 23662 MW; B6731C767A3A95B7 CRC64;

Query Match 95.2%; Score 99; DB 1; Length 211;
Best Local Similarity 94.7%; Pred. No. 2.le-07;
Matches 18; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRCKRRGQGRKNG 19
Db 99 SPENSRCKRRGQGRKNG 117

RESULT 3
GDNF_RAT
ID GDNF_RAT STANDARD; PRT; 211 AA.
AC Q07731; Q64062; Q64063; Q63214;
DT 01-FEB-1995 (Rel. 31, Created)
DT 01-FEB-1995 (Rel. 31, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Glial cell line-derived neurotrophic factor precursor.
GN GDNF.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
[1]
SEQUENCE FROM N.A. (ISOFORM 1), AND SEQUENCE OF 78-102.
RX MDLINE=93262463; PubMed=8493557;
RA Lin L.-F.H., Doherty D.H., Lile J.D., Bektesh S., Collins F.;
RT "GDNF: a glial cell line-derived neurotrophic factor for midbrain
RT dopaminergic neurons.";
RL Science 260:1130-1132(1993).
[2]
SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RX MDLINE=95203379; PubMed=7895811;
RA Springer J.E., Seeburger J.L., He J., Gabrea A., Blankenhorn E.P.,
RA Bergman L.W.;
RT "cDNA sequence and differential mRNA regulation of two forms of glial
RT cell line-derived neurotrophic factor in Schwann cells and rat
RT skeletal muscle.";
RL Exp. Neurol. 131:47-52(1995).
[3]
SEQUENCE OF 1-50 FROM N.A., AND ALTERNATIVE SPLICING.
RC STRAIN-Wistar; TISSUE=Kidney;
RX MDLINE=95210610; PubMed=7696586;
RA Suter-Crazzolara C., Unsicker K.;
RT "GDNF is expressed in two forms in many tissues outside the CNS.";
RL NeuroReport 5:2486-2488(1994).
```

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[4]
RN ALTERNATIVE SPLICING.
RP MEDLINE=95172201; PubMed=7867768;
RX Schaar D.G., Sieber B.A., Sherwood A.C., Dean D., Mendoza G.,
RA Ramakrishnan L., Dreyfus C.F., Black I.B.;
RT "Multiple astrocyte transcripts encode nigral trophic factors in rat
RT and human.";
RL Exp. Neurol. 130:387-393(1994).
[5]
RN X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS).
RP MEDLINE=97331316; PubMed=9187648;
RX Eigenbrot C., Gerber C.;
RT "X-ray structure of glial cell-derived neurotrophic factor at 1.9-A
RT resolution and implications for receptor binding.";
RL Nat. Struct. Biol. 4:435-438(1997).
CC -1- FUNCTION: NEUROTROPHIC FACTOR THAT ENHANCES SURVIVAL AND
CC MORPHOLOGICAL DIFFERENTIATION OF DOPAMINERGIC NEURONS AND
CC INCREASES THEIR HIGH-AFFINITY DOPAMINE UPTAKE.
CC -1- SUBUNIT: HOMODIMER; DISULFIDE-LINKED.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS; 1/GDNF633 (SHOWN HERE) AND
CC 2/GDNF555; ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -1- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY, GDNF SUBFAMILY.
CC -----
CC THIS SWISS-PROT entry is copyright. It is produced through a collaboration
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: L15305; AAA67909.1; -.
DR EMBL: S75583; AAB33891.1; -.
DR EMBL: S75585; AAB33892.1; -.
DR EMBL: X92495; CAA63237.1; -.
DR PIR: A37499; A37499.
DR PDB: IAGQ; 05-JUN-97.
DR InterPro: IPR001839; TGFb.
DR Pfam: PF00019; TGF-beta; 1.
DR SMART: SM00204; TGFb; 1.
DR PROSITE: PS00250; TGF-BETA_1; FALSE_NEG.
KW Growth factor; Glycoprotein; Signal; Alternative splicing;
KW 3D-structure.
FT SIGNAL 1 19
FT PROPEP 20 77
FT CHAIN 78 211
FT DISULFID 118 179
FT DISULFID 145 208
FT DISULFID 149 210
FT DISULFID 178 178
FT CARBOHYD 126 126
FT CARBOHYD 162 162
FT VARSPIC 25 51
FT CONFLICT 77 77
FT CONFLICT 90 90
FT CONFLICT 101 101
FT CONFLICT 101 101
SQ SEQUENCE 211 AA; 23619 MW; AE06C646682895A5 CRC64;

Query Match 95.2%; Score 99; DB 1; Length 211;
Best Local Similarity 94.7%; Pred. No. 2.le-07;
Matches 18; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRCKRRGQGRKNG 19
Db 99 SPENSRCKRRGQGRKNG 117

RESULT 4
MR11_HUMAN
ID MR11_HUMAN STANDARD; PRT; 708 AA.
```


GenCore version 5.1.3
Copyright (c) 1993 - 2002 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: December 30, 2002, 15:38:52 ; Search time 11 Seconds
(without alignments)
71.641 Million cell updates/sec

Title: US-09-687-993-18

Perfect score: 104

Sequence: 1 NPENSGKGRGQKGRNG 19

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_40.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	104	100.0	211	1	GDNF_HUMAN	P39905 homo sapien
2	99	95.2	211	1	GDNF_MOUSE	P48540 mus musculus
3	99	95.2	211	1	GDNF_RAT	Q07731 rattus norv
4	54	51.9	708	1	MR11_HUMAN	P49959 homo sapien
5	51.5	49.5	894	1	ILF3_HUMAN	Q12906 h interleuk
6	51.5	49.5	910	1	ILF3_RAT	Q9J113 rattus norv
7	51.5	49.5	911	1	ILF3_MOUSE	Q921x4 mus musculus
8	51	49.0	525	1	NAB2_YEAST	P32505 saccharomyc
9	50	48.1	265	1	RS2_LETAM	O43932 leishmania
10	50	48.1	340	1	LRPI_HSVIF	P17588 herpes simp
11	50	48.1	613	1	DEAD_HAFIN	P44586 haemophilus
12	49	47.1	494	1	VE2_HPVI12	P36782 human papil
13	48.5	46.6	633	1	ROR_HUMAN	O43390 homo sapien
14	48.5	46.6	643	1	YKQ9_CAEEL	P34304 caenorhabdi
15	48	46.2	126	1	SMD1_CAEEL	Q10013 caenorhabdi
16	48	46.2	758	1	PARC_RHIME	Q59749 rhizobium m
17	47.5	45.7	117	1	SMD1_SCHPO	O42661 schizosacch
18	47	45.2	706	1	MR11_MOUSE	O61216 mus musculus
19	46	44.2	65	1	Y214_TREPA	O83244 treponema p
20	46	44.2	321	1	FBRL_HUMAN	P22087 homo sapien
21	46	44.2	551	1	CC14_YEAST	Q00684 saccharomyc
22	46	44.2	632	1	FMRI_HUMAN	Q06787 homo sapien
23	46	44.2	706	1	MR11_RAT	Q9J1m0 rattus norv
24	45.5	43.8	123	1	LSM4_CAEEL	Q19952 caenorhabdi
25	45	43.3	178	1	P1612_WTVNJ	P31612 wound tumor
26	45	43.3	253	1	RS2_SCHPO	O74892 schizosacch
27	45	43.3	707	1	RHO_STRLI	P52157 streptomyce
28	45	43.3	862	1	TP3B_MOUSE	Q92321 mus musculus
29	44.5	42.8	153	1	IF1A_YEAST	P38912 saccharomyc
30	44.5	42.8	414	1	NSR1_YEAST	P27476 saccharomyc
31	44.5	42.8	700	1	MR11_CHICK	O91am7 gallus gall
32	44	42.3	483	1	VE2_HPVI4	P36783 human papil
33	44	42.3	720	1	MR11_ARATH	Q9xgm2 arabidopsis

RESULT 1

GDNF_HUMAN

ID GDNF_HUMAN

AC P39905; Q9UP97; Q9UD33;

DT 01-FEB-1995 (Rel. 31, Created)

DT 01-FEB-1995 (Rel. 31, Last sequence update)

DT 16-OCT-2001 (Rel. 40, Last annotation update)

DE Glial cell line-derived neurotrophic factor precursor (Astrocyte-

DE derived trophic factor 1) (ATF-1).

GN GDNF.

OS Homo sapiens (Human).

OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.

OX NCBI_TaxID=9606;

RA Lin L.-F.H., Doherty D.H., Lille J.D., Bektesh S., Collins F.;

RT "GDNF: a glial cell line-derived neurotrophic factor for midbrain

RT dopaminergic neurons.";

RL Science 260:1130-1132(1993).

RN [2]

RP SEQUENCE FROM N.A. (ISOFORM 1).

RA MEDLINE=93262463; PubMed=8493557;

RA Lin L.-F.H., Doherty D.H., Lille J.D., Bektesh S., Collins F.;

RT "GDNF: a glial cell line-derived neurotrophic factor for midbrain

RT dopaminergic neurons.";

RL Science 260:1130-1132(1993).

RN [2]

RP SEQUENCE FROM N.A. (ISOFORM 2).

RA MEDLINE=95172201; PubMed=7867768;

RA Schaar D.G., Sieber B.A., Sherwood A.C., Dean D., Mendoza G.,

RA Makrishnan L., Dreyfus C.F., Black I.B.;

RT "Multiple astrocyte transcripts encode nigral trophic factors in rat

RT and human.";

RL Exp. Neurol. 130:387-393(1994).

RN [3]

RP SEQUENCE OF 1-187 FROM N.A. (ISOFORM 1).

RA TISSUE=Kidney;

RA MEDLINE=99296655; PubMed=10366742;

RA Baeker P.A., Lee W.H., Verity A.N., Eglen R.M., Johnson R.M.;

RT "Characterization of a promoter for the human glial cell line-derived

RT neurotrophic factor gene.";

RL Brain Res. Mol. Brain Res. 69:209-222(1999).

RN [4]

RP PARTIAL SEQUENCE, AND DISULFIDE BONDS.

RA MEDLINE=97141760; PubMed=8988018;

RA Haniu M., Hui J., Young Y., Le J., Katta V., Lee R., Shimamoto G.,

RA Rohde M.F.;

RT "Glial cell line-derived neurotrophic factor: selective reduction of

RT the intermolecular disulfide linkage and characterization of its

RL disulfide structure.";

RL Biochemistry 35:16799-16805(1996).

RN [5]

RP REVIEW ON VARIANTS.

RA MEDLINE=98023959; PubMed=9359036;

RA Hofstra R.M.W., Olsinga J., Buys C.H.C.M.;

RT "Mutations in Hirschsprung disease: when does a mutation contribute to

RT the phenotype.";

RL Eur. J. Hum. Genet. 5:180-185(1997).

RN [6]

RP VARIANT HSCR SER-154.

RA MEDLINE=97123511; PubMed=8968758;

ALIGNMENTS

34	44	42.3	740	1	CEB1_HUMAN	Q15027 homo sapien
35	44	42.3	1703	1	SNF2_YEAST	P22082 saccharomyc
36	43.5	41.8	536	1	SPH1_XENLA	Q09003 xenopus lae
37	43.5	41.8	636	1	CAL3_RAT	P13941 rattus norv
38	43.5	41.8	1464	1	CAL3_MOUSE	P08121 mus musculus
39	43	41.3	340	1	YMJA_CAEEL	P34486 caenorhabdi
40	43	41.3	404	1	CAZ_DROME	Q27294 drosophila
41	43	41.3	432	1	PURA_NEIMA	Q9Jv25 neisseria m
42	43	41.3	432	1	PURA_NEIMA	Q9K012 neisseria m
43	43	41.3	487	1	EBN2_EBV	P12978 Epstein-Bar
44	43	41.3	514	1	VE2_HPVS5	P26545 human papil
45	43	41.3	568	1	RRPP_SENDS	P27565 sendai viru

A:Reference number: 153427; MUID:95203379; PMID:7895811

A:Accession: I67605

A>Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-24, 'A', '52-76', 'S', '78-89', 'K', '91-211' <SPR1>

A:Cross-references: GB:S75585; NID:g912790; PIDN:AA333892.1; PID:g912791

A:Experimental source: Long-Evan rats; splice form GDNF555

A:Accession: I53427

A>Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-76, 'S', '78-89', 'K', '91-211' <SPR2>

A:Cross-references: GB:S75583; NID:g912788; PIDN:AA333891.1; PID:g912789

A:Experimental source: strain uncertain; splice form GDNF633

R:Uter-Crazzollara, C.; Unsicker, K.

Neuroreport 5, 2486-2488, 1994

A:Title: GDNF is expressed in two forms in many tissues outside the CNS.

A:Reference number: 158180; MUID:95210610; PMID:7696586

A:Accession: I58180

A>Status: translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-24, 'A', '52-76' <SPR>

A:Cross-references: EMBL:X92495; NID:gl045219; PIDN:CAA63237.1; PID:gl045220

A:Experimental source: strain wistar; kidney

C:Genetics:

A:Gene: gdnf

C:Keywords: disulfide bond; glycoprotein; homodimer

F:1-21/Product: glial cell line-derived neurotrophic factor splice form GDNF633 #status

F:1-24, 'A', '52-211/Product: glial cell line-derived neurotrophic factor splice form GDNF633

F:1-19/Domains: signal sequence #status predicted <SIG>

F:20-77/Domains: propeptide #status predicted <PRO>

F:78-211/Product: glial cell line-derived neurotrophic factor #status experimental <MAT>

F:126,162/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match

Best Local Similarity 95.2%; Score 99; DB 2; Length 211;

Matches 18; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 NPENSRGKGRGGRGKNG 19

Db 99 SPENSRGKGRGGRGKNG 117

RESULT 3

I49686

Glial cell line-derived neurotrophic factor - mouse

C:Species: Mus musculus (house mouse)

C:Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 08-Oct-1999

C:Accession: I49686; JC6518

R:Watabe, K.; Fukuda, T.; Tanaka, J.; Honda, H.; Toyohara, K.; Sakai, O.

Neurosci. Res. 41, 279-290, 1995

A:Title: Spontaneously immortalized adult mouse Schwann cells secrete autocrine and para

A:Reference number: I49686; MUID:95379105; PMID:7650763

A:Accession: I49686

A>Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-211 <RES>

A:Cross-references: GB:D49921; NID:g758584; PIDN:BA08660.1; PID:g758585

R:Matsumita, N.; Fujita, Y.; Tanaka, M.; Nogatsu, T.; Kiuchi, K.

Gene 203, 149-157, 1997

A:Title: Cloning and structural organization of the gene encoding the mouse glial cell 1

A:Reference number: JC6518; MUID:98086214; PMID:9426245

A:Accession: JC6518

A>Status: preliminary

A:Molecule type: nucleic acid

A:Residues: 1-211 <MAT>

Query Match

Best Local Similarity 95.2%; Score 99; DB 2; Length 211;

Matches 18; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 NPENSRGKGRGGRGKNG 19

Db 99 SPENSRGKGRGGRGKNG 117

RESULT 4

T00133

RNA-directed RNA polymerase (EC 2.7.7.48) - rice grassy stunt virus

C:Species: rice grassy stunt virus

C:Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 21-Jul-2000

C:Accession: T00133

R:Toriyama, S.; Kimishima, T.; Takahashi, M.; Shimizu, T.; Minaka, N.; Akutsu, K.

J. Gen. Virol. 79, 2051-2058, 1998

A:Title: The complete nucleotide sequence of the rice grassy stunt virus genome and g

A:Reference number: 214118; MUID:96378059; PMID:97114257

A:Accession: T00133

A>Status: translated from GB/EMBL/DBJ

A:Molecule type: genomic RNA

A:Residues: 1-2925 <TOR>

A:Cross-references: EMBL:AB009656; NID:g3410897; PIDN:BA032246.1; PID:g3410899

A:Experimental source: isolate IRRI

C:Keywords: nucleotidyltransferase

Query Match

Best Local Similarity 53.4%; Score 55.5; DB 2; Length 2925;

Matches 11; Conservative 4; Mismatches 1; Indels 1; Gaps 1;

Qy 1 NPENSRGKGRGGRGKNG 17

Db 2907 NPENSRGKGRGGRGKNG 2922

RESULT 5

H87481

ribonuclease, Rne/Rng family protein [imported] - Caulobacter crescentus

C:Species: Caulobacter crescentus

C:Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 20-Apr-2001

C:Accession: H87481

R:Nierman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg,

B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwin, M.L.; Haft, D.H.; Ko

n, J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C

Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001

A:Title: Complete Genome Sequence of Caulobacter crescentus.

A:Reference number: A87249; MUID:21173698; PMID:11259647

A:Accession: H87481

A>Status: preliminary

A:Molecule type: DNA

A:Residues: 1-898 <STO>

A:Cross-references: GB:AE005673; NID:gl3423322; PIDN:AAK23852.1; GSPDB:GN00148

C:Genetics:

A:Gene: CC1877

Query Match

Best Local Similarity 51.9%; Score 54; DB 2; Length 898;

Matches 11; Conservative 4; Mismatches 2; Indels 2; Gaps 1;

Qy 3 ENSRG-KGRRGGRGKNG 19

Db 604 DDERGDRKGRGGRDRNRG 622

RESULT 6

B48058

RNA-binding protein NAB2 - yeast (Saccharomyces cerevisiae)

N:Alternate names: protein G2910; protein YGL122c

C:Species: Saccharomyces cerevisiae

C:Date: 03-May-1994 #sequence_revision 03-May-1994 #text_change 21-Jul-2000

C:Accession: B48058; A48058; S64132

R:Anderson, J.T.; Wilson, S.M.; Datar, K.V.; Swanson, M.S.

Mol. Cell. Biol. 13, 2730-2741, 1993

A:Title: NAB2: a yeast nuclear polyadenylated RNA-binding protein essential for cell

A:Reference number: A48058; MUID:93233636; PMID:8474438

A:Accession: B48058

A:Molecule type: DNA

A:Residues: 1-525 <AND>

A:Cross-references: GB:L10288; NID:g295628; PIDN:AAA34819.1; PID:g295629

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 30, 2002, 16:12:27 ; Search time 15 Seconds
(without alignments)
121.770 Million cell updates/sec

Title: US-09-687-993-18

Perfect score: 104

Sequence: 1 NPENSRGKGRGQRGKNRG 19

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	104	100.0	211	2 B37499	glial cell line-de
2	99	95.2	211	2 A37499	glial cell line-de
3	99	95.2	211	2 I49686	glial cell line-de
4	55.5	53.4	2925	2 T00133	RNA-directed RNA p
5	54	51.9	898	2 H87481	ribonuclease, Rne/
6	51	49.0	525	2 B48058	RNA-binding protei
7	51	49.0	750	2 A97501	topoisomerase iv c
8	51	49.0	750	2 AE2719	topoisomerase IV s
9	51	49.0	1334	2 E86451	probable copia-ty
10	50	48.1	340	1 WMBEL1	latency-related pr
11	50	48.1	613	2 F64056	probable ATP-depen
12	49.5	47.6	296	2 T04358	hypothetical prote
13	49.5	47.6	893	2 AH1867	hypothetical prote
14	49	47.1	166	2 T39586	hypothetical protei
15	49	47.1	494	2 S35541	E2 protein - human
16	48.5	46.6	627	2 H88533	70.5K hypothetical
17	48.5	46.6	633	2 T02673	heterogeneous nucl
18	48	46.2	126	2 T18952	hypothetical prote
19	47.5	45.7	117	2 T38440	small nuclear ribo
20	47.5	45.7	523	2 E95576	unknown protein, 4
21	47.5	45.7	695	2 I51652	dsRNA-binding prot
22	47.5	45.7	1339	2 T47841	hypothetical prote
23	47	45.2	269	2 JC7700	38K ribosome-asso
24	47	45.2	300	2 T43225	hypothetical prote
25	47	45.2	536	2 T42606	probable transcrip
26	47	45.2	656	2 D96831	hypothetical prote
27	47	45.2	849	2 A96592	hypothetical prote
28	47	45.2	1171	2 T05039	hypothetical prote
29	46.5	44.7	800	2 I51653	dsRNA-binding prot

ALIGNMENTS

RESULT 1

B37499

glial cell line-derived neurotrophic factor precursor - human

N:Alternate names: GDNF

C:Species: Homo sapiens (man)

C>Date: 26-Aug-1999 #sequence_revision 26-Aug-1999 #text_change 26-Aug-1999

C:Accession: B37499

R:Lin, L.F.; Doherty, D.H.; Lile, J.D.; Bektesh, S.; Collins, F.

Science 260, 1130-1132, 1993

A>Title: GDNF: a glial cell line-derived neurotrophic factor for midbrain dopaminergi

A:Reference number: A37499; MUID:93262463; PMID:8493557

A:Accession: B37499

A:Molecule type: DNA

A:Residues: 1-211 <LIN>

A:Cross-references: GB:L19063; GB:L15306; NID:G306761; PIDN:AAA67910.1; PID:G306763

A>Note: sequence extracted from NCBI backbone (NCBIP:132084)

C:Keywords: glycoprotein; homodimer

F:1-19/Domain: signal sequence #status predicted <SIG>

F:20-77/Domain: propeptide #status predicted <PRO>

F:78-211/Product: glial cell line-derived neurotrophic factor #status predicted <MAP>

F:126,162/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 100.0%; Score 104; DB 2; Length 211;

Best Local Similarity 100.0%; Pred. No. 1.7e-07;

Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 NPENSRGKGRGQRGKNRG 19

|||||

Db 99 NPENSRGKGRGQRGKNRG 117

RESULT 2

A37499

glial cell line-derived neurotrophic factor precursor - rat

N:Alternate names: GDNF

N:Contains: glial cell line-derived neurotrophic factor splice form GDNF555; glial ce

C:Species: Rattus norvegicus (Norway rat)

C>Date: 16-Feb-1994 #sequence_revision 16-Feb-1994 #text_change 05-Nov-1999

C:Accession: A37499; I67605; I53427; I58180; S61537

R:Lin, L.F.; Doherty, D.H.; Lile, J.D.; Bektesh, S.; Collins, F.

Science 260, 1130-1132, 1993

A>Title: GDNF: a glial cell line-derived neurotrophic factor for midbrain dopaminergi

A:Reference number: A37499; MUID:93262463; PMID:8493557

A:Accession: A37499

A:Molecule type: mRNA; protein

A:Residues: 1-211 <LIN>

A:Cross-references: GB:L15305; NID:G310123; PIDN:AAA67909.1; PID:G310124

A:Experimental source: glial cell line B49

A>Note: sequence extracted from NCBI backbone (NCBIP:132083)

R:Springer, J.E.; Seeburger, J.L.; He, J.; Gabrea, A.; Blankenhorn, E.P.; Bergman, L.

Exp. Neurol. 131, 47-52, 1995

A>Title: CDNA sequence and differential mRNA regulation of two forms of glial cell li


```
; APPLICATION NUMBER: US/08/535,681
; FILING DATE:
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Curry, Daniel R.
; REGISTRATION NUMBER: 32,727
; REFERENCE/DOCKET NUMBER: A-357
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 805-447-8102
; TELEFAX: 805-499-8011
; TELEX:
; INFORMATION FOR SEQ ID NO: 30:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 31 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-535-681-30

Query Match 100.0%; Score 104; DB 4; Length 31;
Best Local Similarity 100.0%; Pred. No. 6.2e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 NPENSRGKGRGRCQKNG 19
Db 13 NPENSRGKGRGRCQKNG 31

RESULT 14
US-08-535-681-31
; Sequence 31, Application US/08535681
; Patent No. 6184200
; GENERAL INFORMATION:
; APPLICANT: Hu, Sylvia
; TITLE OF INVENTION: Truncated Glial Cell Line-Derived Neurotrophic
; FACTOR
; NUMBER OF SEQUENCES: 50
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: AMGEN INC.
; STREET: 1840 DeHavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States of America
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; FILING DATE:
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Curry, Daniel R.
; REGISTRATION NUMBER: 32,727
; REFERENCE/DOCKET NUMBER: A-357
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 805-447-8102
; TELEFAX: 805-499-8011
; TELEX:
; INFORMATION FOR SEQ ID NO: 31:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 32 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-535-681-31

Query Match 100.0%; Score 104; DB 4; Length 32;
Best Local Similarity 100.0%; Pred. No. 6.4e-09;
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Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 NPENSRGKGRGRCQKNG 19
Db 14 NPENSRGKGRGRCQKNG 32

RESULT 15
US-08-535-681-32
; Sequence 32, Application US/08535681
; Patent No. 6184200
; GENERAL INFORMATION:
; APPLICANT: Hu, Sylvia
; TITLE OF INVENTION: Truncated Glial Cell Line-Derived Neurotrophic
; FACTOR
; NUMBER OF SEQUENCES: 50
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: AMGEN INC.
; STREET: 1840 DeHavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States of America
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; FILING DATE:
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Curry, Daniel R.
; REGISTRATION NUMBER: 32,727
; REFERENCE/DOCKET NUMBER: A-357
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 805-447-8102
; TELEFAX: 805-499-8011
; TELEX:
; INFORMATION FOR SEQ ID NO: 32:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 33 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-535-681-32

Query Match 100.0%; Score 104; DB 4; Length 33;
Best Local Similarity 100.0%; Pred. No. 6.6e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 NPENSRGKGRGRCQKNG 19
Db 15 NPENSRGKGRGRCQKNG 33
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Search completed: December 30, 2002, 16:15:41
Job time : 15 secs

TELECOMMUNICATION INFORMATION:
TELEPHONE: 805-447-8102
TELEFAX: 805-499-8011
TELEX:
INFORMATION FOR SEQ ID NO: 27:
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-535-681-27

Query Match 100.0%; Score 104; DB 4; Length 28;
Best Local Similarity 100.0%; Pred. No. 5.6e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGGRGKNGR 19
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10 NPENSRGKGRGGRGKNGR 28

RESULT 11
US-08-535-681-28
Sequence 28, Application US/08535681
Patent No. 6184200
GENERAL INFORMATION:
APPLICANT: Hu, Sylvia
TITLE OF INVENTION: Truncated Glial Cell Line-Derived Neurotrophic
SEQUENCE CHARACTERISTICS:
LENGTH: 28 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-535-681-28

Query Match 100.0%; Score 104; DB 4; Length 29;
Best Local Similarity 100.0%; Pred. No. 5.8e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGGRGKNGR 19
|||||
11 NPENSRGKGRGGRGKNGR 29

TELECOMMUNICATION INFORMATION:
TELEPHONE: 805-447-8102
TELEFAX: 805-499-8011
TELEX:
INFORMATION FOR SEQ ID NO: 28:
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-535-681-28

Query Match 100.0%; Score 104; DB 4; Length 29;
Best Local Similarity 100.0%; Pred. No. 5.8e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGGRGKNGR 19
|||||
11 NPENSRGKGRGGRGKNGR 29

RESULT 12
US-08-535-681-29
Sequence 29, Application US/08535681
Patent No. 6184200
GENERAL INFORMATION:
APPLICANT: Hu, Sylvia
TITLE OF INVENTION: Truncated Glial Cell Line-Derived Neurotrophic
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-535-681-29

Query Match 100.0%; Score 104; DB 4; Length 30;
Best Local Similarity 100.0%; Pred. No. 6e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGGRGKNGR 19
|||||
12 NPENSRGKGRGGRGKNGR 30

TELECOMMUNICATION INFORMATION:
TELEPHONE: 805-447-8102
TELEFAX: 805-499-8011
TELEX:
INFORMATION FOR SEQ ID NO: 29:
SEQUENCE CHARACTERISTICS:
LENGTH: 30 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-535-681-29

Query Match 100.0%; Score 104; DB 4; Length 30;
Best Local Similarity 100.0%; Pred. No. 6e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGGRGKNGR 19
|||||
12 NPENSRGKGRGGRGKNGR 30

RESULT 13
US-08-535-681-30
Sequence 30, Application US/08535681
Patent No. 6184200
GENERAL INFORMATION:
APPLICANT: Hu, Sylvia
TITLE OF INVENTION: Truncated Glial Cell Line-Derived Neurotrophic
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-535-681-30

Query Match 100.0%; Score 104; DB 4; Length 29;
Best Local Similarity 100.0%; Pred. No. 5.8e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGGRGKNGR 19
|||||
11 NPENSRGKGRGGRGKNGR 29

TELECOMMUNICATION INFORMATION:
TELEPHONE: 805-447-8102
TELEFAX: 805-499-8011
TELEX:
INFORMATION FOR SEQ ID NO: 28:
SEQUENCE CHARACTERISTICS:
LENGTH: 29 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-535-681-28

Query Match 100.0%; Score 104; DB 4; Length 29;
Best Local Similarity 100.0%; Pred. No. 5.8e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGGRGKNGR 19
|||||
11 NPENSRGKGRGGRGKNGR 29

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; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-535-681-24

Query Match      100.0%; Score 104; DB 4; Length 25;
Best Local Similarity 100.0%; Pred. No. 5e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGQKNGK 19
Db 7 NPENSRGKGRGQKNGK 25

RESULT 8
US-08-535-681-25
; Sequence 25, Application US/08535681
; Patent No. 6184200
; GENERAL INFORMATION:
; APPLICANT: Hu, Sylvia
; TITLE OF INVENTION: Truncated Glial Cell Line-Derived Neurotrophic
; TITLE OF INVENTION: Factor
; NUMBER OF SEQUENCES: 50
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: AMGEN INC.
; STREET: 1840 DeHavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States of America
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/535,681
; FILING DATE:
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Curry, Daniel R.
; REGISTRATION NUMBER: 32,727
; REFERENCE/DOCKET NUMBER: A-357
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 805-447-8102
; TELEFAX: 805-499-8011
; TELEX:
; INFORMATION FOR SEQ ID NO: 25:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 26 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-535-681-25

Query Match      100.0%; Score 104; DB 4; Length 26;
Best Local Similarity 100.0%; Pred. No. 5.2e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGQKNGK 19
Db 8 NPENSRGKGRGQKNGK 26

RESULT 9
US-08-535-681-26
; Sequence 26, Application US/08535681
; Patent No. 6184200
; GENERAL INFORMATION:
; APPLICANT: Hu, Sylvia
; TITLE OF INVENTION: Truncated Glial Cell Line-Derived Neurotrophic
```

```
; TITLE OF INVENTION: Factor
; NUMBER OF SEQUENCES: 50
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: AMGEN INC.
; STREET: 1840 DeHavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States of America
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/535,681
; FILING DATE:
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Curry, Daniel R.
; REGISTRATION NUMBER: 32,727
; REFERENCE/DOCKET NUMBER: A-357
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 805-447-8102
; TELEFAX: 805-499-8011
; TELEX:
; INFORMATION FOR SEQ ID NO: 26:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 27 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-535-681-26

Query Match      100.0%; Score 104; DB 4; Length 27;
Best Local Similarity 100.0%; Pred. No. 5.4e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGQKNGK 19
Db 9 NPENSRGKGRGQKNGK 27

RESULT 10
US-08-535-681-27
; Sequence 27, Application US/08535681
; Patent No. 6184200
; GENERAL INFORMATION:
; APPLICANT: Hu, Sylvia
; TITLE OF INVENTION: Truncated Glial Cell Line-Derived Neurotrophic
; TITLE OF INVENTION: Factor
; NUMBER OF SEQUENCES: 50
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: AMGEN INC.
; STREET: 1840 DeHavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States of America
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/535,681
; FILING DATE:
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Curry, Daniel R.
; REGISTRATION NUMBER: 32,727
; REFERENCE/DOCKET NUMBER: A-357
```



```
RESULT 2
US-08-535-681-19
; Sequence 19, Application US/08535681
; Patent No. 6184200
; GENERAL INFORMATION:
; APPLICANT: Hu, Sylvia
; TITLE OF INVENTION: Truncated Glial Cell Line-Derived Neurotrophic
; TITLE OF INVENTION: Factor
; NUMBER OF SEQUENCES: 50
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: AMGEN INC.
; STREET: 1840 DeHavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States of America
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/535,681
; FILING DATE:
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Curry, Daniel R.
; REGISTRATION NUMBER: 32,727
; REFERENCE/DOCKET NUMBER: A-357
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 805-447-8102
; TELEFAX: 805-499-8011
; TELEX:
; INFORMATION FOR SEQ ID NO: 19:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 20 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-535-681-19
Query Match 100.0%; Score 104; DB 4; Length 20;
Best Local Similarity 100.0%; Pred. No. 4e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGGRGKNGR 19
    |||
2 NPENSRGKGRGGRGKNGR 20
    |||

RESULT 3
US-08-535-681-20
; Sequence 20, Application US/08535681
; Patent No. 6184200
; GENERAL INFORMATION:
; APPLICANT: Hu, Sylvia
; TITLE OF INVENTION: Truncated Glial Cell Line-Derived Neurotrophic
; TITLE OF INVENTION: Factor
; NUMBER OF SEQUENCES: 50
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: AMGEN INC.
; STREET: 1840 DeHavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States of America
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/535,681
; FILING DATE:
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Curry, Daniel R.
; REGISTRATION NUMBER: 32,727
; REFERENCE/DOCKET NUMBER: A-357
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 805-447-8102
; TELEFAX: 805-499-8011
; TELEX:
; INFORMATION FOR SEQ ID NO: 20:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 22 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-535-681-21
Query Match 100.0%; Score 104; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 4e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGGRGKNGR 19
    |||
3 NPENSRGKGRGGRGKNGR 21
    |||

RESULT 4
US-08-535-681-21
; Sequence 21, Application US/08535681
; Patent No. 6184200
; GENERAL INFORMATION:
; APPLICANT: Hu, Sylvia
; TITLE OF INVENTION: Truncated Glial Cell Line-Derived Neurotrophic
; TITLE OF INVENTION: Factor
; NUMBER OF SEQUENCES: 50
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: AMGEN INC.
; STREET: 1840 DeHavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States of America
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/535,681
; FILING DATE:
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Curry, Daniel R.
; REGISTRATION NUMBER: 32,727
; REFERENCE/DOCKET NUMBER: A-357
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 805-447-8102
; TELEFAX: 805-499-8011
; TELEX:
; INFORMATION FOR SEQ ID NO: 21:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 22 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-535-681-21
Query Match 100.0%; Score 104; DB 4; Length 22;
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GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 30, 2002, 16:13:32 ; Search time 14 Seconds
(without alignments)
39.931 Million cell updates/sec

Title: US-09-687-993-18

Perfect score: 104

Sequence: 1 NPENSRGKRGGRGQKNGR 19

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued_Patents_AA.*

- 1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep.*
- 2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep.*
- 3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep.*
- 4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep.*
- 5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep.*
- 6: /cgn2_6/ptodata/1/iaa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	104	100.0	19	4	US-08-535-681-18
2	104	100.0	20	4	US-08-535-681-19
3	104	100.0	21	4	US-08-535-681-20
4	104	100.0	22	4	US-08-535-681-21
5	104	100.0	23	4	US-08-535-681-22
6	104	100.0	24	4	US-08-535-681-23
7	104	100.0	25	4	US-08-535-681-24
8	104	100.0	26	4	US-08-535-681-25
9	104	100.0	27	4	US-08-535-681-26
10	104	100.0	28	4	US-08-535-681-27
11	104	100.0	29	4	US-08-535-681-28
12	104	100.0	30	4	US-08-535-681-29
13	104	100.0	31	4	US-08-535-681-30
14	104	100.0	32	4	US-08-535-681-31
15	104	100.0	33	4	US-08-535-681-32
16	104	100.0	34	4	US-08-535-681-33
17	104	100.0	35	4	US-08-535-681-34
18	104	100.0	36	4	US-08-535-681-35
19	104	100.0	37	4	US-08-535-681-36
20	104	100.0	38	4	US-08-535-681-37
21	104	100.0	39	4	US-08-535-681-38
22	104	100.0	134	1	US-08-564-458-1
23	104	100.0	134	1	US-08-564-458-1
24	104	100.0	134	1	US-08-535-682-1
25	104	100.0	134	1	US-08-446-383A-1
26	104	100.0	134	1	US-08-795-628-1
27	104	100.0	134	1	US-08-519-776

28	104	100.0	134	1	US-08-618-543-1	Sequence 1, Appl
29	104	100.0	134	1	US-08-742-035-76	Sequence 76, Appl
30	104	100.0	134	2	US-08-777-019-76	Sequence 76, Appl
31	104	100.0	134	2	US-08-606-176A-1	Sequence 1, Appl
32	104	100.0	134	2	US-08-777-143-76	Sequence 76, Appl
33	104	100.0	134	2	US-08-710-219A-1	Sequence 1, Appl
34	104	100.0	134	2	US-08-452-242-6	Sequence 6, Appl
35	104	100.0	134	3	US-08-453-176A-6	Sequence 6, Appl
36	104	100.0	134	3	US-08-775-414-76	Sequence 76, Appl
37	104	100.0	134	3	US-08-451-374-6	Sequence 6, Appl
38	104	100.0	134	4	US-08-535-681-2	Sequence 2, Appl
39	104	100.0	134	4	US-08-935-268A-6	Sequence 6, Appl
40	104	100.0	134	4	US-08-931-858E-76	Sequence 76, Appl
41	104	100.0	134	4	US-08-981-739-76	Sequence 76, Appl
42	104	100.0	134	4	US-09-220-528-13	Sequence 13, Appl
43	104	100.0	134	4	US-08-452-229-6	Sequence 6, Appl
44	104	100.0	134	4	US-09-128-026-76	Sequence 76, Appl
45	104	100.0	135	4	US-08-535-681-47	Sequence 47, Appl

ALIGNMENTS

RESULT 1
US-08-535-681-18
; Sequence 18, Application US/08535681
; Patent No. 6184200
; GENERAL INFORMATION:
; APPLICANT: Hu, Sylvia
; TITLE OF INVENTION: Truncated Gila Cell Line-Derived Neurotrophic
; TITLE OF INVENTION: Factor
; NUMBER OF SEQUENCES: 50
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: AMGEN INC.
; STREET: 1840 DeHavilland Drive
; CITY: Thousand Oaks
; STATE: California
; COUNTRY: United States of America
; ZIP: 91320
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/535,681
; FILING DATE:
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Curry, Daniel R.
; REGISTRATION NUMBER: 32,727
; REFERENCE/DOCKET NUMBER: A-357
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 805-447-8102
; TELEFAX: 805-499-8011
; TELEX:
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 19 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-535-681-18

Query Match 100.0%; Score 104; DB 4; Length 19;
Best Local Similarity 100.0%; Pred. No. 3.9e-09;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 NPENSRGKRGGRGQKNGR 19
Db 1 NPENSRGKRGGRGQKNGR 19

CC N-terminus selected from G, RG, NRG or the N-terminal peptides
 CC given in AAW15707-42, and additions, substitutions and internal
 CC deletion variants of these. Also claimed are: a polynucleotide
 CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 CC a transformed or transfected prokaryotic or eukaryotic host cell;
 CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
 CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 CC in the treatment of nervous system damage caused by disease or
 CC injury, especially in the treatment of Parkinson's disease.

xx SQ Sequence 33 AA;

Query Match 100.0%; Score 104; DB 18; Length 33;
 Best Local Similarity 100.0%; Pred. No. 9.5e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 NPENSRGKGRGQKNG 19
 |||||
 Db 15 NPENSRGKGRGQKNG 33

Search completed: December 30, 2002, 16:14:04
 Job time : 36 secs

PF 16-SEP-1996; 96WO-US14915.
 PR 28-SEP-1995; 95US-0535681.
 XX (AMGE-) AMGEN INC.

XX Hu SS;
 XX WPI; 1997-212849/19.

XX Truncated glial cell line-derived neurotrophic factor protein - used
 PT in the treatment and gene therapy of Parkinson's disease
 PS Claim 1; Page 84; 105pp; English.

XX This peptide sequence comprises amino acid residues 10-40 of the
 CC human glial cell line-derived neurotrophic factor (GDNF) protein
 CC (see AAW15706) and represents an N-terminal sequence of a novel
 CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
 CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 CC methionylated or nonmethionylated amine group of Cys41 or an
 CC N-terminus selected from G, RG, NRG or the N-terminal peptides
 CC given in AAW15707-42, and additions, substitutions and internal
 CC deletion variants of these. Also claimed are: a polynucleotide
 CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 CC a transformed or transfected prokaryotic or eukaryotic host cell;
 CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
 CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 CC in the treatment of nervous system damage caused by disease or
 CC injury, especially in the treatment of Parkinson's disease.

XX Sequence 31 AA;

Query Match 100.0%; Score 104; DB 18; Length 31;
 Best Local Similarity 100.0%; Pred. No. 9e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 NPENSRGKRRGQGRGNRG 19
 |||||
 DB 13 NPENSRGKRRGQGRGNRG 31

RESULT 14
 AAW15735
 ID AAW15735 standard; Peptide; 32 AA.

XX AAW15735;

XX 28-NOV-1997 (first entry)

XX Truncated GDNF N-terminal peptide.

XX Glial cell line-derived neurotrophic factor; GDNF; human;
 KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX Synthetic.

XX WO9711964-A1.

XX 03-APR-1997.

XX 16-SEP-1996; 96WO-US14915.

XX 28-SEP-1995; 95US-0535681.

XX (AMGE-) AMGEN INC.

XX Hu SS;

XX WPI; 1997-212849/19.

XX Truncated glial cell line-derived neurotrophic factor protein - used

PT in the treatment and gene therapy of Parkinson's disease
 XX Claim 1; Page 84; 105pp; English.

XX This peptide sequence comprises amino acid residues 9-40 of the
 CC human glial cell line-derived neurotrophic factor (GDNF) protein
 CC (see AAW15706) and represents an N-terminal sequence of a novel
 CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
 CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 CC methionylated or nonmethionylated amine group of Cys41 or an
 CC N-terminus selected from G, RG, NRG or the N-terminal peptides
 CC given in AAW15707-42, and additions, substitutions and internal
 CC deletion variants of these. Also claimed are: a polynucleotide
 CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 CC a transformed or transfected prokaryotic or eukaryotic host cell;
 CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
 CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 CC in the treatment of nervous system damage caused by disease or
 CC injury, especially in the treatment of Parkinson's disease.

XX Sequence 32 AA;

Query Match 100.0%; Score 104; DB 18; Length 32;
 Best Local Similarity 100.0%; Pred. No. 9.2e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 NPENSRGKRRGQGRGNRG 19
 |||||
 DB 14 NPENSRGKRRGQGRGNRG 32

RESULT 15

AAW15736

ID AAW15736 standard; Peptide; 33 AA.

XX AAW15736;

XX 28-NOV-1997 (first entry)

XX Truncated GDNF N-terminal peptide.

XX Glial cell line-derived neurotrophic factor; GDNF; human;
 KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX Synthetic.

XX WO9711964-A1.

XX 03-APR-1997.

XX 16-SEP-1996; 96WO-US14915.

XX 28-SEP-1995; 95US-0535681.

XX (AMGE-) AMGEN INC.

XX Hu SS;

XX WPI; 1997-212849/19.

XX Truncated glial cell line-derived neurotrophic factor protein - used
 PT in the treatment and gene therapy of Parkinson's disease

XX Claim 1; Page 84; 105pp; English.

XX This peptide sequence comprises amino acid residues 8-40 of the
 CC human glial cell line-derived neurotrophic factor (GDNF) protein
 CC (see AAW15706) and represents an N-terminal sequence of a novel
 CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
 CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 CC methionylated or nonmethionylated amine group of Cys41 or an

Db 10 NPENSRGKGRGQKNG 28

RESULT 11

AAW15732
ID AAW15732 standard; Peptide; 29 AA.

XX AAW15732;

XX 28-NOV-1997 (first entry)

XX Truncated GDNF N-terminal peptide.

XX Glial cell line-derived neurotrophic factor; GDNF; human;
KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX Synthetic.

XX WO9711964-A1.

XX 03-APR-1997.

XX 16-SEP-1996; 96WO-US14915.

XX 28-SEP-1995; 95US-0535681.

XX (AMGE-) AMGEN INC.

XX Hu SS;

XX WPI; 1997-212849/19.

XX Truncated glial cell line-derived neurotrophic factor protein - used
PT in the treatment and gene therapy of Parkinson's disease

XX Claim 1; Page 84; 105pp; English.

XX This peptide sequence comprises amino acid residues 12-40 of the
CC human glial cell line-derived neurotrophic factor (GDNF) protein
CC (see AAW15706) and represents an N-terminal sequence of a novel
CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
CC methionylated or nonmethionylated amine group of Cys41 or an
CC N-terminus selected from G, RG, NRG or the N-terminal peptides
CC given in AAW15707-42, and additions, substitutions and internal
CC deletion variants of these. Also claimed are: a polynucleotide
CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
CC a transformed or transfected prokaryotic or eukaryotic host cell;
CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
CC in the treatment of nervous system damage caused by disease or
CC injury, especially in the treatment of Parkinson's disease.

XX Sequence 29 AA;

Query Match 100.0%; Score 104; DB 18; Length 29;
Best Local Similarity 100.0%; Pred. No. 8.4e-08;

Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 NPENSRGKGRGQKNG 19

DB 11 NPENSRGKGRGQKNG 29

RESULT 12

AAW15733
ID AAW15733 standard; Peptide; 30 AA.

XX AAW15733;

XX 28-NOV-1997 (first entry)

DE Truncated GDNF N-terminal peptide.

XX Glial cell line-derived neurotrophic factor; GDNF; human;
KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX Synthetic.

XX WO9711964-A1.

XX 03-APR-1997.

XX 16-SEP-1996; 96WO-US14915.

XX 28-SEP-1995; 95US-0535681.

XX (AMGE-) AMGEN INC.

XX Hu SS;

XX WPI; 1997-212849/19.

XX Truncated glial cell line-derived neurotrophic factor protein - used
PT in the treatment and gene therapy of Parkinson's disease

XX Claim 1; Page 84; 105pp; English.

XX This peptide sequence comprises amino acid residues 11-40 of the
CC human glial cell line-derived neurotrophic factor (GDNF) protein
CC (see AAW15706) and represents an N-terminal sequence of a novel
CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
CC methionylated or nonmethionylated amine group of Cys41 or an
CC N-terminus selected from G, RG, NRG or the N-terminal peptides
CC given in AAW15707-42, and additions, substitutions and internal
CC deletion variants of these. Also claimed are: a polynucleotide
CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
CC a transformed or transfected prokaryotic or eukaryotic host cell;
CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
CC in the treatment of nervous system damage caused by disease or
CC injury, especially in the treatment of Parkinson's disease.

XX Sequence 30 AA;

Query Match 100.0%; Score 104; DB 18; Length 30;
Best Local Similarity 100.0%; Pred. No. 8.7e-08;

Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 NPENSRGKGRGQKNG 19

DB 12 NPENSRGKGRGQKNG 30

RESULT 13

AAW15734
ID AAW15734 standard; Peptide; 31 AA.

XX AAW15734;

XX 28-NOV-1997 (first entry)

XX Truncated GDNF N-terminal peptide.

XX Glial cell line-derived neurotrophic factor; GDNF; human;
KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX Synthetic.

XX WO9711964-A1.

XX 03-APR-1997.

CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
 CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 CC methionylated or nonmethionylated amine group of Cys41 or an
 CC N-terminus selected from G, RG, NRG or the N-terminal peptides
 CC given in AAW15707-42, and additions, substitutions and internal
 CC deletion variants of these. Also claimed are: a polynucleotide
 CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 CC a transformed or transfected prokaryotic or eukaryotic host cell;
 CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
 CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 CC in the treatment of nervous system damage caused by disease or
 CC injury, especially in the treatment of Parkinson's disease.

XX SQ Sequence 26 AA;

Query Match 100.0%; Score 104; DB 18; Length 26;
 Best Local Similarity 100.0%; Pred. No. 7, 6e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Y 1 NPENSRGKRRGQGRGNRG 19
 |||||
 Db 8 NPENSRGKRRGQGRGNRG 26

RESULT 9

AAW15730
 ID AAW15730 standard; Peptide; 27 AA.

AC AAW15730;

XX 28-NOV-1997 (first entry)

XX Truncated GDNF N-terminal peptide.

XX Glial cell line-derived neurotrophic factor; GDNF; human;
 KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX Synthetic.

XX WO9711964-A1.

XX 03-APR-1997.

XX 16-SEP-1996; 96WO-US14915.

XX 28-SEP-1995; 95US-0535681.

XX (AMGE-) AMGEN INC.

XX Hu SS;

XX WPI; 1997-212849/19.

XX Truncated glial cell line-derived neurotrophic factor protein - used
 PT in the treatment and gene therapy of Parkinson's disease

XX Claim 1; Page 84; 105pp; English.

XX This peptide sequence comprises amino acid residues 14-40 of the
 CC human glial cell line-derived neurotrophic factor (GDNF) protein
 CC (see AAW15706) and represents an N-terminal sequence of a novel
 CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
 CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 CC methionylated or nonmethionylated amine group of Cys41 or an
 CC N-terminus selected from G, RG, NRG or the N-terminal peptides
 CC given in AAW15707-42, and additions, substitutions and internal
 CC deletion variants of these. Also claimed are: a polynucleotide
 CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 CC a transformed or transfected prokaryotic or eukaryotic host cell;
 CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
 CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used

CC in the treatment of nervous system damage caused by disease or
 CC injury, especially in the treatment of Parkinson's disease.

XX Sequence 27 AA;

Query Match 100.0%; Score 104; DB 18; Length 27;
 Best Local Similarity 100.0%; Pred. No. 7, 9e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKRRGQGRGNRG 19
 |||||
 Db 9 NPENSRGKRRGQGRGNRG 27

RESULT 10

AAW15731

ID AAW15731 standard; Peptide; 28 AA.

XX AAW15731;

XX 28-NOV-1997 (first entry)

XX Truncated GDNF N-terminal peptide.

XX Glial cell line-derived neurotrophic factor; GDNF; human;
 KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX Synthetic.

XX WO9711964-A1.

XX 03-APR-1997.

XX 16-SEP-1996; 96WO-US14915.

XX 28-SEP-1995; 95US-0535681.

XX (AMGE-) AMGEN INC.

XX Hu SS;

XX WPI; 1997-212849/19.

XX Truncated glial cell line-derived neurotrophic factor protein - used
 PT in the treatment and gene therapy of Parkinson's disease

XX Claim 1; Page 84; 105pp; English.

XX This peptide sequence comprises amino acid residues 13-40 of the
 CC human glial cell line-derived neurotrophic factor (GDNF) protein
 CC (see AAW15706) and represents an N-terminal sequence of a novel
 CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
 CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 CC methionylated or nonmethionylated amine group of Cys41 or an
 CC N-terminus selected from G, RG, NRG or the N-terminal peptides
 CC given in AAW15707-42, and additions, substitutions and internal
 CC deletion variants of these. Also claimed are: a polynucleotide
 CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 CC a transformed or transfected prokaryotic or eukaryotic host cell;
 CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
 CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 CC in the treatment of nervous system damage caused by disease or
 CC injury, especially in the treatment of Parkinson's disease.

XX Sequence 28 AA;

Query Match 100.0%; Score 104; DB 18; Length 28;
 Best Local Similarity 100.0%; Pred. No. 8, 1e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKRRGQGRGNRG 19
 |||||

PN W09711964-A1.
 XX 03-APR-1997.
 XX 16-SEP-1996; 96WO-US14915.
 XX 28-SEP-1995; 95US-0535681.
 XX (AMGE-) AMGEN INC.
 XX Hu SS;
 XX WPI; 1997-212849/19.
 XX Truncated glial cell line-derived neurotrophic factor protein - used
 XX in the treatment and gene therapy of Parkinson's disease
 XX Claim 1; Page 84; 105pp; English.
 XX This peptide sequence comprises amino acid residues 17-40 of the
 XX human glial cell line-derived neurotrophic factor (GDNF) protein
 XX (see AAW15706) and represents an N-terminal sequence of a novel
 XX truncated GDNF. Claimed truncated GDNF proteins have the formula:
 XX X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 XX mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 XX methionylated or nonmethionylated amine group of Cys41 or an
 XX N-terminus selected from G, RG, NRG or the N-terminal peptides
 XX deletion variants of these. Also claimed are: a polynucleotide
 XX (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 XX a transformed or transfected prokaryotic or eukaryotic host cell;
 XX and a GDNF composition comprising mature GDNF protein (44 kDa) and
 XX one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 XX in the treatment of nervous system damage caused by disease or
 XX injury, especially in the treatment of Parkinson's disease.
 XX SQ Sequence 24 AA;
 Query Match 100.0%; Score 104; DB 18; Length 24;
 Best Local Similarity 100.0%; Pred. No. 7.1e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 NPENSRGKGRGQKNG 19
 |||||||
 DB 6 NPENSRGKGRGQKNG 24
 RESULT 7
 AAW15728
 AAW15728 standard; Peptide; 25 AA.
 AC AAW15728;
 XX 28-NOV-1997 (first entry)
 XX Truncated GDNF N-terminal peptide.
 XX Glial cell line-derived neurotrophic factor; GDNF; human;
 XX dopaminergic; nerve cell; Parkinson's disease; gene therapy.
 XX Synthetic.
 XX W09711964-A1.
 XX 03-APR-1997.
 XX 16-SEP-1996; 96WO-US14915.
 XX 28-SEP-1995; 95US-0535681.
 XX (AMGE-) AMGEN INC.
 XX Hu SS;
 XX WPI; 1997-212849/19.
 XX Truncated glial cell line-derived neurotrophic factor protein - used
 XX in the treatment and gene therapy of Parkinson's disease
 XX Claim 1; Page 84; 105pp; English.
 XX This peptide sequence comprises amino acid residues 15-40 of the
 XX human glial cell line-derived neurotrophic factor (GDNF) protein
 XX (see AAW15706) and represents an N-terminal sequence of a novel
 XX truncated GDNF. Claimed truncated GDNF proteins have the formula:
 XX X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 XX mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 XX methionylated or nonmethionylated amine group of Cys41 or an
 XX N-terminus selected from G, RG, NRG or the N-terminal peptides
 XX deletion variants of these. Also claimed are: a polynucleotide
 XX (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 XX a transformed or transfected prokaryotic or eukaryotic host cell;
 XX and a GDNF composition comprising mature GDNF protein (44 kDa) and
 XX one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 XX in the treatment of nervous system damage caused by disease or
 XX injury, especially in the treatment of Parkinson's disease.
 XX SQ Sequence 25 AA;
 Query Match 100.0%; Score 104; DB 18; Length 25;
 Best Local Similarity 100.0%; Pred. No. 7.3e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 NPENSRGKGRGQKNG 19
 |||||||
 DB 7 NPENSRGKGRGQKNG 25
 RESULT 8
 AAW15729
 AAW15729 standard; Peptide; 26 AA.
 XX AAW15729;
 XX 28-NOV-1997 (first entry)
 XX Truncated GDNF N-terminal peptide.
 XX Glial cell line-derived neurotrophic factor; GDNF; human;
 XX dopaminergic; nerve cell; Parkinson's disease; gene therapy.
 XX Synthetic.
 XX W09711964-A1.
 XX 03-APR-1997.
 XX 16-SEP-1996; 96WO-US14915.
 XX 28-SEP-1995; 95US-0535681.
 XX (AMGE-) AMGEN INC.
 XX Hu SS;
 XX WPI; 1997-212849/19.
 XX Truncated glial cell line-derived neurotrophic factor protein - used
 XX in the treatment and gene therapy of Parkinson's disease
 XX Claim 1; Page 84; 105pp; English.
 XX This peptide sequence comprises amino acid residues 15-40 of the
 XX human glial cell line-derived neurotrophic factor (GDNF) protein
 XX (see AAW15706) and represents an N-terminal sequence of a novel
 XX truncated GDNF. Claimed truncated GDNF proteins have the formula:
 XX X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 XX mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 XX methionylated or nonmethionylated amine group of Cys41 or an
 XX N-terminus selected from G, RG, NRG or the N-terminal peptides
 XX deletion variants of these. Also claimed are: a polynucleotide
 XX (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 XX a transformed or transfected prokaryotic or eukaryotic host cell;
 XX and a GDNF composition comprising mature GDNF protein (44 kDa) and
 XX one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 XX in the treatment of nervous system damage caused by disease or
 XX injury, especially in the treatment of Parkinson's disease.
 XX SQ Sequence 25 AA;
 Query Match 100.0%; Score 104; DB 18; Length 25;
 Best Local Similarity 100.0%; Pred. No. 7.3e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 NPENSRGKGRGQKNG 19
 |||||||
 DB 7 NPENSRGKGRGQKNG 25

Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKRRGQGRGNRG 19
 |||||
 DB 3 NPENSRGKRRGQGRGNRG 21

RESULT 4
 AAW15725
 ID AAW15725 standard; Peptide; 22 AA.

XX AC AAW15725;

XX DT 28-NOV-1997 (first entry)

XX DE Truncated GDNF N-terminal peptide.

XX KW Glial cell line-derived neurotrophic factor; GDNF; human;
 XX KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.
 XX OS Synthetic.

XX PN WO9711964-A1.

XX PD 03-APR-1997.

XX PF 16-SEP-1996; 96WO-US14915.

XX PR 28-SEP-1995; 95US-0535681.

XX PA (AMGE-) AMGEN INC.

XX PI Hu SS;

XX DR WPI; 1997-212849/19.

XX PT Truncated glial cell line-derived neurotrophic factor protein - used
 XX PT in the treatment and gene therapy of Parkinson's disease

XX PS Claim 1; Page 84; 105pp; English.

XX CC This peptide sequence comprises amino acid residues 19-40 of the
 XX CC human glial cell line-derived neurotrophic factor (GDNF) protein
 XX CC (see AAW15706) and represents an N-terminal sequence of a novel
 XX CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
 XX CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 XX CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 XX CC methionylated or nonmethionylated amine group of Cys41 or an
 XX CC N-terminus selected from G, RG, NRG or the N-terminal peptides
 XX CC given in AAW15707-42, and additions, substitutions and internal
 XX CC deletion variants of these. Also claimed are: a polynucleotide
 XX CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 XX CC a transformed or transfected prokaryotic or eukaryotic host cell;
 XX CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
 XX CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 XX CC in the treatment of nervous system damage caused by disease or
 XX CC injury, especially in the treatment of Parkinson's disease.

XX SQ Sequence 22 AA;

Query Match 100.0%; Score 104; DB 18; Length 22;
 Best Local Similarity 100.0%; Pred. No. 6.5e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKRRGQGRGNRG 19
 |||||
 DB 4 NPENSRGKRRGQGRGNRG 22

RESULT 5
 AAW15726
 ID AAW15726 standard; Peptide; 23 AA.

XX

AC AAW15726;

XX DT 28-NOV-1997 (first entry)

XX DE Truncated GDNF N-terminal peptide.

XX KW Glial cell line-derived neurotrophic factor; GDNF; human;
 XX KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX OS Synthetic.

XX PN WO9711964-A1.

XX PD 03-APR-1997.

XX PF 16-SEP-1996; 96WO-US14915.

XX PR 28-SEP-1995; 95US-0535681.

XX PA (AMGE-) AMGEN INC.

XX PI Hu SS;

XX DR WPI; 1997-212849/19.

XX PT Truncated glial cell line-derived neurotrophic factor protein - used
 XX PT in the treatment and gene therapy of Parkinson's disease

XX PS Claim 1; Page 84; 105pp; English.

XX CC This peptide sequence comprises amino acid residues 18-40 of the
 XX CC human glial cell line-derived neurotrophic factor (GDNF) protein
 XX CC (see AAW15706) and represents an N-terminal sequence of a novel
 XX CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
 XX CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 XX CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 XX CC methionylated or nonmethionylated amine group of Cys41 or an
 XX CC N-terminus selected from G, RG, NRG or the N-terminal peptides
 XX CC given in AAW15707-42, and additions, substitutions and internal
 XX CC deletion variants of these. Also claimed are: a polynucleotide
 XX CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 XX CC a transformed or transfected prokaryotic or eukaryotic host cell;
 XX CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
 XX CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 XX CC in the treatment of nervous system damage caused by disease or
 XX CC injury, especially in the treatment of Parkinson's disease.

XX SQ Sequence 23 AA;

Query Match 100.0%; Score 104; DB 18; Length 23;
 Best Local Similarity 100.0%; Pred. No. 6.8e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKRRGQGRGNRG 19
 |||||
 DB 5 NPENSRGKRRGQGRGNRG 23

RESULT 6

AAW15727

ID AAW15727 standard; Peptide; 24 AA.

XX AC AAW15727;

XX DT 28-NOV-1997 (first entry)

XX DE Truncated GDNF N-terminal peptide.

XX KW Glial cell line-derived neurotrophic factor; GDNF; human;
 XX KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX OS Synthetic.

XX

XX This peptide sequence comprises amino acid residues 22-40 of the
 CC human glial cell line-derived neurotrophic factor (GDNF) protein
 CC (see AAW15706) and represents an N-terminal sequence of a novel
 CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
 CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 CC methionylated or nonmethionylated amine group of Cys41 or an
 CC N-terminus selected from G, RG, NRG or the N-terminal peptides
 CC given in AAW15707-42, and additions, substitutions and internal
 CC deletion variants of these. Also claimed are: a polynucleotide
 CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 CC a transformed or transfected prokaryotic or eukaryotic host cell;
 CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
 CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 CC in the treatment of nervous system damage caused by disease or
 CC injury, especially in the treatment of Parkinson's disease.

XX Sequence 19 AA;

Query Match 100.0%; Score 104; DB 18; Length 19;
 Best Local Similarity 100.0%; Pred. No. 5.7e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGQRGKNG 19
 |||||

Db 1 NPENSRGKGRGQRGKNG 19

RESULT 2

AAW15723
 ID AAW15723 standard; Peptide; 20 AA.

AC AAW15723;

DT 28-NOV-1997 (first entry)

DE Truncated GDNF N-terminal peptide.

XX Glial cell line-derived neurotrophic factor; GDNF; human;
 KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX Synthetic.

XX WO9711964-A1.

XX 03-APR-1997.

XX 16-SEP-1996; 96WO-US14915.

XX 28-SEP-1995; 95US-0535681.

XX (AMGE-) AMGEN INC.

XX Hu SS;

XX WPI; 1997-212849/19.

XX Truncated glial cell line-derived neurotrophic factor protein - used
 PT in the treatment and gene therapy of Parkinson's disease

XX Claim 1; Page 83; 105pp; English.

XX This peptide sequence comprises amino acid residues 21-40 of the
 CC human glial cell line-derived neurotrophic factor (GDNF) protein
 CC (see AAW15706) and represents an N-terminal sequence of a novel
 CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
 CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 CC methionylated or nonmethionylated amine group of Cys41 or an
 CC N-terminus selected from G, RG, NRG or the N-terminal peptides
 CC given in AAW15707-42, and additions, substitutions and internal
 CC deletion variants of these. Also claimed are: a polynucleotide

CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 CC a transformed or transfected prokaryotic or eukaryotic host cell;
 CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
 CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 CC in the treatment of nervous system damage caused by disease or
 CC injury, especially in the treatment of Parkinson's disease.

XX Sequence 20 AA;

Query Match 100.0%; Score 104; DB 18; Length 20;
 Best Local Similarity 100.0%; Pred. No. 6e-08;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NPENSRGKGRGQRGKNG 19
 |||||

Db 2 NPENSRGKGRGQRGKNG 20

RESULT 3

AAW15724
 ID AAW15724 standard; Peptide; 21 AA.

XX AAW15724;

XX 28-NOV-1997 (first entry)

XX Truncated GDNF N-terminal peptide.

XX Glial cell line-derived neurotrophic factor; GDNF; human;
 KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX Synthetic.

XX WO9711964-A1.

XX 03-APR-1997.

XX 16-SEP-1996; 96WO-US14915.

XX 28-SEP-1995; 95US-0535681.

XX (AMGE-) AMGEN INC.

XX Hu SS;

XX WPI; 1997-212849/19.

XX Truncated glial cell line-derived neurotrophic factor protein - used
 PT in the treatment and gene therapy of Parkinson's disease

XX Claim 1; Page 83; 105pp; English.

XX This peptide sequence comprises amino acid residues 20-40 of the
 CC human glial cell line-derived neurotrophic factor (GDNF) protein
 CC (see AAW15706) and represents an N-terminal sequence of a novel
 CC truncated GDNF. Claimed truncated GDNF proteins have the formula:
 CC X-(Cys41-Cys133)-Y, where (Cys41-Cys133) = Cys41 through Cys133 of
 CC mature human GDNF; Y = a C-terminal Cys133 or Ile134; and X = a
 CC methionylated or nonmethionylated amine group of Cys41 or an
 CC N-terminus selected from G, RG, NRG or the N-terminal peptides
 CC given in AAW15707-42, and additions, substitutions and internal
 CC deletion variants of these. Also claimed are: a polynucleotide
 CC (see AAT60542-46) encoding a truncated GDNF (see AAW15743-45); a vector;
 CC a transformed or transfected prokaryotic or eukaryotic host cell;
 CC and a GDNF composition comprising mature GDNF protein (44 kDa) and
 CC one or more truncated GDNFs (29-40 kDa). The truncated GDNF is used
 CC in the treatment of nervous system damage caused by disease or
 CC injury, especially in the treatment of Parkinson's disease.

XX Sequence 21 AA;

Query Match 100.0%; Score 104; DB 18; Length 21;
 Best Local Similarity 100.0%; Pred. No. 6.2e-08;

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: December 30, 2002, 15:36:42 ; Search time 35 Seconds
(without alignments)
72.336 Million cell updates/sec

Title: US-09-687-993-18

Perfect score: 104

Sequence: 1 NPENSRGKRRGQRGKNG 19

Scoring table:

BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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23: /SID22/gcgdata/geneseq/geneseq-emb1/AA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	104	100.0	19	18 AAW15722	Truncated GDNF N-t
2	104	100.0	20	18 AAW15723	Truncated GDNF N-t
3	104	100.0	21	18 AAW15724	Truncated GDNF N-t
4	104	100.0	22	18 AAW15725	Truncated GDNF N-t
5	104	100.0	23	18 AAW15726	Truncated GDNF N-t
6	104	100.0	24	18 AAW15727	Truncated GDNF N-t
7	104	100.0	25	18 AAW15728	Truncated GDNF N-t
8	104	100.0	26	18 AAW15729	Truncated GDNF N-t
9	104	100.0	27	18 AAW15730	Truncated GDNF N-t
10	104	100.0	28	18 AAW15731	Truncated GDNF N-t

11	104	100.0	29	18 AAW15732	Truncated GDNF N-t
12	104	100.0	30	18 AAW15733	Truncated GDNF N-t
13	104	100.0	31	18 AAW15734	Truncated GDNF N-t
14	104	100.0	32	18 AAW15735	Truncated GDNF N-t
15	104	100.0	33	18 AAW15736	Truncated GDNF N-t
16	104	100.0	34	18 AAW15737	Truncated GDNF N-t
17	104	100.0	35	18 AAW15738	Truncated GDNF N-t
18	104	100.0	36	18 AAW15739	Truncated GDNF N-t
19	104	100.0	37	18 AAW15740	Truncated GDNF N-t
20	104	100.0	38	18 AAW15741	Truncated GDNF N-t
21	104	100.0	39	18 AAW15742	Truncated GDNF N-t
22	104	100.0	133	16 AAW79376	Human ATF-2, Homo
23	104	100.0	133	18 AAW30069	Human glial-derive
24	104	100.0	134	18 AAW32106	Human partial glia
25	104	100.0	134	18 AAW18052	Mature human glial
26	104	100.0	134	18 AAW18058	Mature human glial
27	104	100.0	134	18 AAW22027	Glial cell derived
28	104	100.0	134	18 AAW23782	Human mature glial
29	104	100.0	134	18 AAW15706	Glial cell line-de
30	104	100.0	134	20 AAW16658	WO9914235 Seq ID N
31	104	100.0	134	22 AAB35941	GDNF amino acid se
32	104	100.0	134	23 AAW51947	Human TGPbeta prot
33	104	100.0	135	18 AAW14930	Human glial cell 1
34	104	100.0	135	18 AAW31945	Human glial cell 1
35	104	100.0	159	20 AAY50698	Human GDNF protein
36	104	100.0	160	14 AAR38298	Human glial derive
37	104	100.0	185	16 AAR79375	Human ATF-1, Homo
38	104	100.0	185	20 AAY50697	Human GDNF protein
39	104	100.0	211	19 AAW83964	Human glial cell 1
40	104	100.0	211	20 AAY50695	Human GDNF protein
41	104	100.0	211	20 AAY50696	Human GDNF protein
42	99	95.2	134	20 AAY16659	WO9914235 Seq ID N
43	99	95.2	134	20 AAY16660	WO9914235 Seq ID N
44	99	95.2	134	22 AAU03952	Rat GDNF polypepti
45	99	95.2	147	22 AAU04452	Rat mutant G-hf-GD

ALIGNMENTS

RESULT 1

AAW15722

ID AAW15722 standard; Peptide; 19 AA.

AC AAW15722;

XX

XX 28-NOV-1997 (first entry)

DT

XX Truncated GDNF N-terminal peptide.

DE

XX Glial cell line-derived neurotrophic factor; GDNF; human;

KW dopaminergic; nerve cell; Parkinson's disease; gene therapy.

XX

XX Synthetic.

OS

XX

PN WO9711964-A1.

XX

XX 03-APR-1997.

PD

XX

PF 16-SEP-1996; 96WO-US14915.

XX

PR 28-SEP-1995; 95US-0535681.

XX (AMGE-) AMGEN INC.

XX

XX Hu SS;

XX

XX WPI; 1997-212849/19.

XX

XX Truncated glial cell line-derived neurotrophic factor protein - used

PT in the treatment and gene therapy of Parkinson's disease

XX

PS Claim 1; Page 83; 105pp; English.